

Amendments to the Drawings:

Applicants hereby submit new formal drawings containing reference numerals and increased font size, as required in paragraph 2 of the Action.

Remarks:

As amended herein, Claim 1 more particularly points out and distinctly claims the subject matter of applicants' invention. In particular, it is made clear that the invention permits a novel form of data communication among the processing elements of the message passing fabric, and that the route is established in accordance with a prioritization means. Similarly, Claims 15 and 18 have been amended to conform to amended Claim 1, and Claim 20 has been amended to recite a physical function of performing computational operations and data communications.

Each of the amendments has been made merely to make the claims distinct, and not to distinguish them from any prior art. Applicants respectfully submit that the amended claims now comport with the statutory requirements of 35 U.S.C. § 112, second paragraph.

Applicants respectfully traverse the rejection of Claims 1-20 under 35 U.S.C. §102 in view of U.S. Patent No. 7,080,156 to Lee, et al. because Lee, et al. does not describe applicants' invention. In particular, the Lee, et al. patent differs from applicants' invention in the following ways:

Lee, et al. is limited to means of transmitting messages in a toroidal network, while the present invention teaches a two-dimensional mesh, and is not so-limited. The Lee, et al. invention modifies messages as they pass through intermediate network nodes, whereas in the present invention, addressing means and message paths are separate from message ports, thus leaving messages unaltered as they are communicated across the mesh.

Lee, et al. teaches the transmission of a message that must contain source, destination and region addresses, whereas in the present invention the message need not contain any of these elements in order to be communicated along a routing path from source to destination.

Lee, et al teaches only a unidirectional bus interconnecting nodes, whereas according to the present invention, control, address and data are forwarded to the next node, and control information flows backward to the source node over the same path segment.

Lee et al. only teaches the routing of messages, whereas the present invention comprises a means of asynchronously establishing routes over which synchronous messages and control may be passed in both directions with no message modification.

Lee does not provide any way to try all possible optimal routes, whereas the present invention teaches a method of attempting each possible optimal segment by backing up from the last attempted but failed segment, and attempting a path through an untried alternate direction should one exist.

Lee, et al. does not teach a means by which an originating node is notified of a delivery failure or rejection by a destination node (because, for example of rights conflicts, or not ready status), whereas the present invention provides such control information.

Lee, et al. does not teach a means of detecting deadlock over either processing element access or message path access, whereas the present invention detects and corrects for such occurrences.

Lee et al. cannot release a routing segment from a partially completed path, upon path obstruction, whereas the present invention teaches allowing each intermediate node to make an alternate path decision to facilitate exhaustively attempting all optimal paths to the destination, without source node intervention. Nor does the Lee, et al. reference teach a means of recovering from an intermediate node that cannot forward a message due to congestion on all of its available outbound links, as does the present invention.

Finally, Lee, et al. teach a method in which the message must be queued at each intermediate point so that its content may be modified, whereas the present invention comprises a method of constructing a route without manipulation or queuing of the message by intermediate nodes.

In sum, then, and for all of the foregoing reasons, the Lee, et al. reference fails to describe the invention disclosed and claimed by applicants here, and thus is inapposite as a reference under 35 U.S.C. §102(e).

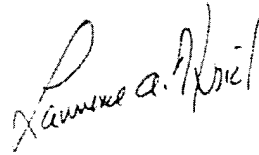
In view of the foregoing, applicants earnestly solicit allowance of their claims.

CONCLUSION

Should the Examiner have any questions regarding the Application in its present form, he is invited to telephone the undersigned to discuss such questions. This may help expedite prosecution of this application.

Respectfully submitted,

Lipton, Weinberger & Husick

A handwritten signature in black ink, appearing to read "Lawrence A. Husick". The signature is written in a cursive, flowing style.

Lawrence A. Husick, Esq.

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